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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/108,447

07/01/1998

GERALD N. COLEMAN

CFT-003

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11/06/2008

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EXAMINER

MCAVOY, ELLEN M

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

11/06/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/108,447	Applicant(s) COLEMAN ET AL.	
	Examiner Ellen M. McAvoy	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 August 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 31-34, 37, 38 and 40-52 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 31-34, 37, 38 and 40-52 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicants' submissions: amendments to the claims and arguments, filed on 28 August 2008, have been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 31-34, 37, 38 and 40-52 are still rejected under 35 U.S.C. 103(a) as being unpatentable over Dubin (5,284,492) in combination with Ford (3,756,794), Gunnerman (WO 95/27021) and Schwab (5,669,938).

Applicants' arguments filed 28 August 2008 have been fully considered but they are not persuasive. As previously set forth, Dubin discloses a fuel oil composition comprising an emulsion of water and a fuel oil which is used as a combustion fuel for a gas turbine which results in reduced nitrogen oxides emissions and improved combustion efficiency. The emulsion can be either a water-in-fuel oil or a fuel oil-in-water emulsion. The oil phase comprises a light fuel oil, by which is meant a fuel oil having little or no aromatic compounds and consists

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essentially of relatively low molecular weight aliphatic and naphthenic hydrocarbons. See column 3, lines 41-49. The emulsions which have the most practical significance in applications when combusted alone are those having about 5% to about 50% water and are preferably about 10% to about 35% water-in-fuel oil by weight. Although demineralized or purified water is not required, Dubin teaches that the use of demineralized water in the emulsion is preferred. See column 4, lines 7-35. An emulsification system is most preferably employed to maintain the emulsion. A desirable emulsification system comprises about 25% to about 85% by weight of an amide, especially an alkanolamide or n-substituted alkyl amine; about 5% to about 25% by weight of a phenolic surfactant including ethoxylated alkylphenols; and about 0% to about 40% by weight of a difunctional block polymer terminating in a primary hydroxyl group. The addition of a component selected from the group consisting of dimer and/or trimer acids, sulfurized castor oil, phosphate esters, and mixtures thereof significantly increase the lubricity of the emulsion. The addition of a corrosion inhibitor is taught in column 8, lines 56 to column 9, line 2. Dubin differs from the instant claims in not teaching the addition of an ignition delay modifier including ammonium nitrate as an emulsion stabilizer and an antifreeze additive (dependent claim 51). However, as evidenced by Ford, Gunnerman and Schwab, such additives are well-known in hydrocarbon fuel emulsions.

Ford discloses emulsified fuel compositions comprising a hydrocarbon fuel such as diesel and gasoline fuels, an emulsifier, water and an emulsion stabilizer. Ammonium nitrate may be added to the emulsion as a freezing point depressant or an antifreeze additive in an amount of 0.1 to 10% by weight, preferably 0.3 to 0.7 % by weight. See column 1, line 49 to column 2, line 26.

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Gunnerman discloses aqueous fuel compositions for internal combustion engines. The fuel comprises a fluid emulsion comprising 20 to 80 vol. % water which may be purified, 40 to 60 % carbonaceous fuel such as gasoline and diesel fuels, about 2 to less than 20 vol. % alcohol such as methanol and ethanol, and about 0.3 to 1 vol. % of a nonionic emulsifier. See page 1, lines 30-36. Freezing-point observations indicated a dramatic lowering of the freezing point as the percentage of alcohol is increased. See page 8, lines 17-19. Schwab discloses diesel fuel emulsions containing an emission reducing amount of at least one fuel-soluble organic nitrate ignition improver such as 2-ethylhexyl nitrate. The examiner maintains the position that it would have been obvious to the skilled artisan to have followed the teachings of the prior art and to have added the ammonium nitrate anti-freeze additive of Ford, the organic nitrate ignition improver of Schwab, and the anti-freeze inhibitor of Gunnerman to the hydrocarbon fuel emulsion of Dubin in order to provide a hydrocarbon fuel emulsion having improved anti-freeze and ignition properties.

Applicants argue that the present invention utilizes the Diels-Alder adducts as coupling agents after they have been neutralized to form a water soluble salt, as contrasted with Dubin who uses them with no modification. Applicants argue that the examiner has failed to consider that not only are the Diels-Alder adducts added for a different reason, they are also chemically different which results in their behavior being different. This is not deemed to be persuasive because applicants neutralize the Diels-Alder acids with an alkanolamine to form a water soluble salt, and Dubin allows for the addition to the emulsion the same Diels-Alder acids and the same alkanolamines. The examiner maintains the position that no chemical reaction takes place which causes the Diels-Alder acids to neutralize, but that the components are simply mixed together. As set forth in previous office actions, it is not clear how the same additive components could have different properties.

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Applicants argue that the combination of Dubin with the other references does not render the claimed invention obvious because Ford does not ever discuss the use of ammonium nitrate by itself as a stabilizer, and Schwab teaches the use of fuel-soluble organic nitrate ignition improvers for water in oil emulsions and not oil in water emulsions as claimed. This is not deemed to be persuasive because, as set forth in previous office actions, the examiner maintains the position that the purposes for the various additives described in the references are more than adequate to suggest their common usage in fuel emulsion compositions. It has been held that it is *prima facie* obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose...the idea of combining them flows logically from their having been individually taught in the prior art. See *In re Kerkhoven*, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980).

Applicants argue that Dubin teaches the disclosed fuel emulsion for use in an electric power generating gas turbine which differs from the claimed fuel emulsion which is suitable for use in an internal combustion engine, and that a fuel that works well in the fairly well-controlled environment of an electric power generating gas turbine may not be appropriate to use in an internal combustion engine. This is not deemed to be persuasive because the claims at issue are compositions, and not methods for using the compositions in an internal combustion engine.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ellen M. McAvoy whose telephone number is (571) 272-1451.

The examiner can normally be reached on M-F (7:30-5:00) with alt. Fridays off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ellen M McAvoy/

Ellen M McAvoy
Primary Examiner
Art Unit 1797

EMcAvoy
November 4, 2008